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SOURCE GOST 1631-42

USSR STANDARD FOR BEARING LUBRICANT (GOST 1631-42)

(Petroleum Industry B 24)

1. This standard applies to consistent lubricant (for ball and roller bearings operating at a working temperature up to 110° C) prepared by thickening refined petroleum lubricating oils with sodium and calcium salts of castor-oil fatty acids.

2. The lubricant is a homogeneous oily paste, light yellow to dark brown in color. When spread in a thin film, it appears clear, with a smooth, non-fibrous structure.

3. The lubricant must satisfy the following requirements:

<u>Physicochemical Properties</u>	<u>Values</u>	<u>Test Method</u>
1. Penetration (Richardson) at 25° C (without preliminary stirring)	175-210	OST NKTP 7872/2292, M. I. 6a-36
2. Drop-point temperature (Ubbelohde), not lower than	120° C	OST NKTP 7872/2292, M. I. 7 zh-36
3. Water content, not more than	0.75%	GOST 1044-41
4. Free alkali, in terms of NaOH, not greater than	0.2%	OST NKTP 7872/2292, M. I. 25k-37
5. Free acids	None	OST NKTP 7872/2292, M. I. 25k-37

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<u>Physicochemical Properties</u>	<u>Values</u>	<u>Test Method</u>
6. Mechanical impurities insoluble in HCl	None	OST NKTP 7872/2292, M. I. 191-37
7. Corrosion test on metal plates:		
a. Steel, for 72 hr		
b. Bronze, for 24 hr	Passes	GOST 1037-41
8. Thermal stability test	Passes	In accordance with point 4 of this standard
9. Chemical stability test	Passes	In accordance with point 5 of this standard
10. Soap content, not less than	23%	OST NKTP 7872/2292, M. I. 21B-36
11. Viscosity of mineral oil in the lubricant at 50° C	3.5-4.0° E	OST VKS 7872/2292, M. I. 54-35
12. Freezing point of mineral oil in the lubricant, not higher than	-35° C	GOST 1533-42

NOTE: 1. Bearing lubricant with a higher penetration number is permitted upon specification by the consumer.

11. Specifications as to soap content (see 10), viscosity of mineral oil entering into the lubricant (see 11), and freezing point of this oil (see 12) are not tested and are not guaranteed by the plant manufacturing the lubricant.

4. For testing thermal stability, take a sieve with 6,400 holes per square centimeter (200 mesh), and make in it a cup-shaped depression corresponding in inside diameter to a beaker of 50 milliliters' capacity. Cover the beaker with the sieve. In the hollow of the sieve place 10 g of lubricant, weighed accurate to 0.1 g and put both beaker and sieve into a thermostat heated to $110 \pm 1^\circ \text{C}$ for 2 hr.

The lubricant is considered to have passed the test if in the course of 2 hr no oil has seeped from sieve to beaker.

5. The test for chemical stability is performed in a tin box 50 x 100 millimeters in size and about 100 millimeters high in which the lubricant to be tested is smeared, and carefully smoothed out with a spatula. The box with the grease is placed in a thermostat heated up to $100 \pm 3^\circ \text{C}$ for 72 hr. A second box, packed by the same method and tightly covered with a well-fitting lid, is placed for 72 hr in a dark place with a temperature of $20-25^\circ \text{C}$. At the end of the fixed period of the test, both boxes are illuminated and the lubricant samples in them are compared.

The sample of lubricant subjected to heating is considered to have passed the test if its surface has not developed an observable skin and coating and if it has become only slightly dark in comparison with the second sample.

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6. Packing, labeling, storage, transport, and inspection of the lubricant are carried out in accordance with GOST 1510-42 (replaced by GOST 510-45).

Proposed by People's Commissariat of Petroleum Industry USSR.

Approved by the All-Union Committee on Standards, 29 June 1942

Effective 1 August 1942.

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